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IMMR-0029B

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TRANSMITTAL FORM	Application Number	09/755,383	
	Filing Date	01/05/01	
	First Named Inventor	Bruce M. Shena	
	Art Unit	2673	
	Examiner Name	David Lee Lewis	

Attorney Docket Number

Total Number of Pages in This Submission ENCLOSURES (check all that apply) After Allowance Communication to TC Drawing(s) Fee Transmittal Form Appeal Communication to Board Licensing-related Papers Fee Attached of Appeals and Interferences Appeal Communication to TC Petition Amendment / Reply (Appeal Notice, Brief, Reply Brief) Petition to Convert to a Proprietary Information After Final Provisional Application Power of Attorney, Revocation Status Letter Affidavits/declaration(s) Change of Correspondence Address Terminal Disclaimer Other Enclosure(s) Extension of Time Request (please identify below): POSTCARD Request for Refund Express Abandonment Request CD, Number of CD(s) _ ☐ Landscape Table on CD Information Disclosure Statement Remarks Certified Copy of Priority Document(s) Reply to Missing Parts/ Incomplete Application Reply to Missing Parts under 37 CFR1.52 or 1.53 SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT Firm THELEN REID & PRIEST, LLP Signature Printed Name Khaled Shami Reg. 38,745 Date CERTIFICATE OF TRANSMISSION/MAILING I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown/below

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Ruth Rodriquez



Docket No.: IMMR-0029B Serial No.: 09/755,383

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:

Bruce M. Schena et al.

SERIAL NO.:

09/755,383

FILING DATE:

January 5, 2001

TITLE:

Force Feedback Interface Device with Touchpad Sensor

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ART UNIT:

2673

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REPLY BRIEF

Dear Sir:

This Reply Brief is responsive to the Examiner's Answer mailed November 3, 2005, in the above-captioned application. Consideration of the following is respectfully urged.

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The Examiner equates Hannaford's planar assembly 20 with the touchpad sensor of claims 47, 60 and 71 of the present application. This is untenable. Planar assembly 20 is a sophisticated mechanical system with numerous interacting precision components. The complex design seeks to eliminate several undesirable characteristics plaguing mechanical systems of this type, including backlash, high friction and high inertia. (Hannaford, col. 2, 11.30 - 39). All of these characteristics, when present, would detract from the ability to perform the delicate and precise procedures with which the Hannaford system may be tasked, such as manipulation of the cutting point of a scalpel in a simulated surgery.

Because of its complexity, planar assembly 20 of Hannaford is ill-suited for wide-spread consumer applications. For instance, it would be costly to produce and difficult to maintain, and would not withstand the daily usage by multiple members—young and old—of a typical household when home use is contemplated. In contrast, the touchpad sensor of the invention is a single electro-mechanical component that is compact, robust and easily and economically mass produced. One reason for its compactness and simplicity is its detection of <u>force</u> in the Z-direction, to be distinguished from <u>full range Z-direction motion</u> detection performed by planar assembly 20 of Hannaford. The need to detect full range Z-direction motion requires sufficient space to accommodate such full range Z-direction motion, and in Hannaford, links 68 and 70 are provided for this. The touchpad sensor of the invention, by comparison, is effectively flat and "dimensionless" in the Z-direction. It has effectively no range of motion in that direction (except for the limited amount required to register a Z-direction force), and requires no mechanical support or attendant space to accommodate such motion. It is of significantly less complexity,

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having no mechanically linked or moving parts, and can be acquired using off-the-shelf

components requiring no custom production.

For these reasons at least, planar assembly 20 of Hannaford cannot be equated with the

touchpad sensor of the invention. Noll and Zilles add little to alleviate this shortcoming.

Accordingly, the prior art rejections based on Hannaford as combined with either Noll alone, or

with both Noll and Zilles, is improper and should be withdrawn.

The Commissioner is hereby authorized to charge any additional fees or credit any

overpayment to Deposit Account 50-1698.

Respectfully submitted, THELEN, REID, & PRIEST LLP

Dated: January 3, 2006

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